



(19) Europäisches Patentamt  
Europäische Patent Office  
Officier européen des brevets



(11) Publication number: 0 601 619 A3

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number: 93203046.3

(51) Int. Cl. 6: A61K 47/48, A61K 9/51,  
A61K 49/04

(22) Date of filing: 30.10.93

(30) Priority: 04.12.92 US 985424

(71) Applicant: EASTMAN KODAK COMPANY  
343 State Street  
Rochester,  
New York 14650 (US)

(43) Date of publication of application:

15.06.94 Bulletin 94/24

(72) Inventor: Na, George C., c/o STERLING  
WINTHROP INC.  
Patent Department,  
90 Park Avenue  
New York,  
New York 10016 (US)  
Inventor: Rajagopalan, Natarajan, c/o  
STERLING WINTHROP INC.  
Patent Department,  
90 Park Avenue  
New York,  
New York 10016 (US)

(84) Designated Contracting States:

AT BE CH DE DK ES FR GB GR IE IT LI LU MC  
NL PT SE

(74) Representative: Haile, Helen Cynthia et al  
Kodak Limited  
Patent Department  
Headstone Drive  
Harrow,  
Middlesex HA1 4TY (GB)

(54) Use of non-ionic cloud point modifiers to minimize nanoparticle aggregation during sterilization.

(57) A composition comprising nanoparticles having a surface modifier adsorbed on the surface thereof and a non-ionic cloud point modifier associated therewith, which cloud point modifier is present in an amount sufficient to increase the cloud point of the surface modifier and methods of making such nanoparticles is described. A preferred surface modifier is a poloxamine such as Tetronic 908, and preferred non-ionic cloud point modifiers include polyethylene glycol, propylene glycol, ethanol, hydroxypropylcyclodextrin and/or glycerol.

EP 0 601 619 A3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 93 20 3046

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
E	EP-A-0 600 532 (STERLING WINTHROP INC.) 12 August 1992 * page 3, line 2 - line 29 * * claims * ---	1-11	A61K47/48 A61K9/51 A61K49/04
E	EP-A-0 601 618 (STERLING WINTHROP INC.) 15 June 1994 * claims * ---	1-11	
E	EP-A-0 602 700 (STERLING WINTHROP INC.) 22 June 1994 * page 5, line 44 - line 56; claims * ---	1-11	
E	EP-A-0 605 024 (STERLING WINTHROP INC.) 6 July 1994 * page 3 * * page 5, line 47 - line 52 * ---	1-11	
E	EP-A-0 602 702 (STERLING WINTHROP INC.) 22 June 1994 * column 2, line 14 - column 3, line 40 * ---	1-11	
A	WO-A-90 15593 (YTKMISKA INSTITUTET) 27 December 1990 * page 7, line 18 - page 9, line 14; claims * ---	1-11	A61K
X	EP-A-0 012 523 (AMERICAN HOME PRODUCTS CO.) 25 June 1980 * page 6, line 6 - line 19; claims * ---	1,2	
E	EP-A-0 577 215 (STERLING WINTHROP INC.) 5 January 1994 * page 3, line 33 - page 4, line 19; claims * ----	1	
		-/-	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	5 September 1995	Berte, M	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 93 20 3046

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
E	WO-A-94 02122 (UNIVERSITY OF NOTTINGHAM) 3 1 February 1994 * page 5, line 25 - page 6, line 6; claims * -----	
TECHNICAL FIELDS SEARCHED (Int.Cl.)		
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
THE HAGUE	5 September 1995	Berte, M
CATEGORY OF CITED DOCUMENTS		
X : particularly relevant if taken alone		T : theory or principle underlying the invention
Y : particularly relevant if combined with another document of the same category		E : earlier patent document, but published on, or after the filing date
A : technological background		D : document cited in the application
O : non-written disclosure		L : document cited for other reasons
P : intermediate document		A : member of the same patent family, corresponding document